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EXAMINER

ROBERTS, BRIAN S

ART UNIT PAPER NUMBER

2662

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

- Claims 1-13 have been examined.

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on the applications filed in Japan on 05/22/2000 and 03/19/2001. It is noted, however, that applicant has not filed a certified copy of the applications 2000-150507 and 2001-078466 as required by 35 U.S.C. 119(b).

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- In reference to claim 10

The phrase "a power of 2 – 1" is unclear and indefinite. The examiner cannot ascertain the meaning of the phrase from the claim or the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1 and 3-13 are rejected under 35 U.S.C. 102(a) as being anticipated by “Optimization of an Adaptive Link Control Protocol for Multimedia Packet Radio Networks” by J.R. McChesney and R.J. Saulitis, hereafter, McChesney et al.

- In reference to claim 1, 12 and 13

In Figure 3, McChesney et al. teaches

- A destination radio estimates the channel quality of a communication link upon receiving a message packet from a source radio. The destination radio transmits the channel quality measurements to the source radio in an ACK or NACK. (pg. 263, column 2, paragraph 3)
- The source radio receives the ACK or NACK and learns the value of the channel quality information. The source radio utilizes the channel quality information to determine the power level and information rate for the next transmission to the destination radio. (pg. 263, column 2, paragraph 3)

- In reference to claim 3, 8, 9, and 10, as best understood

In Figure 4, McChesney et al. further teaches the source radio adapting the power level and information rate according to such parameters as the SNR, BER, number of tracked paths, PDSQ, interference on the channel, communication range, traffic load variance, and radio electrical performance to a optimize the retransmission of the data. (pg. 263, column 2 paragraph 1 – pg. 264, column 1, paragraph 2)

- In reference to claim 4 and 5

In Figure 3, McChesney et al. further teaches the source radio pre-assigning transmission parameter in the LLC Table and utilizing the parameters to transmit data until the destination radio transmits a ACK or NACK that includes the quality measurements. The source radio updates the transmission parameters and transmits the next data utilizing the updated transmission parameters.

- In reference to claim 6 and 7

In Figure 3, McChesney et al. further teaches the destination radio transmitting the signal quality in a NACK packet that indicates an error. The source radio receives the NACK and adjusts the transmission parameters according to the signal quality measurement information transmitted in the NACK for retransmission of the data.

- In reference to claim 11

In Figure 3, McChesney et al. teaches:

- A source radio transmitting an RTS (first signal) to a destination radio includes the proposed symbol rate, code rate, and a transmission power level in the RTS (pg. 263, column 1, paragraph 4)
- The destination radio transmits to the source radio a NACK (second signal) that contains signal quality measurement (third signal) (pg. 263, column 2, paragraph 3)
- The source radio utilizes the received signal quality measurements for the next transmission (pg. 263, column 2, paragraph 3)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Optimization of an Adaptive Link Control Protocol for Multimedia Packet Radio Networks" by J.R. McChesney and R.J. Saulitis, hereafter, McChesney et al.

- In reference to claim 2

McChesney et al. further teaches that the source radio utilizes the channel quality information to determine the power level and information rate for the next transmission to the destination radio. (pg. 263, column 2, paragraph 3)

Art Unit: 2662

McChesney et al. does not explicitly teach retransmitting the data at a maximum transmission capacity if the capacity necessary for demodulation is greater than the maximum transmission capacity.

In Figure 4, McChesney et al. teaches adapting the power level and information rate according to such parameters as the SNR, BER, number of tracked paths, PDSQ, interference on the channel, communication range, traffic load variance, and radio electrical performance to a optimize the throughput efficiency and throughput rate. (pg. 263, column 2 paragraph 1 – pg. 264, column 1, paragraph 2)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the system and method of McChesney et al. to include the source radio transmitting the packets at the maximum transmission rate according the channel quality information communicated to the source radio by the destination radio and because it allows the optimization of the throughput efficiency and throughput rate within the system.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Dirschedl et al. (US 6262994) teaches an arrangement for the optimization of the data transmission via a bi-directional radio channel.

Art Unit: 2662


- Khan et al. (US 6367045) teaches a bandwidth efficient acknowledgment/negative acknowledgement in a communication system using automatic repeat request.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Roberts whose telephone number is (571) 272-3095. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BSR
10/28/2005


JOHN PEZZLO
PRIMARY EXAMINER